

IXTH 15N70

 $V_{DSS} = 700 V$

 $I_{D \text{ (cont)}} = 15 \text{ A}$

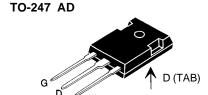
 $R_{DS(on)} = 0.45 \Omega$

MegaMOS™FET

N-Channel Enhancement Mode



Symbol	Test Conditions	Maximum	Ratings
V _{DSS}	$T_{J} = 25$ °C to 150°C	700	V
$\mathbf{V}_{\mathtt{DGR}}$	$T_J = 25$ °C to 150 °C; $R_{GS} = 1 \text{ M}\Omega$	700	V
V _{gs}	Continuous	±20	V
$\mathbf{V}_{\mathtt{GSM}}$	Transient	±30	V
I _{D25}	T _C = 25°C	15	Α
I _{DM}	$T_{\rm C} = 25^{\circ}$ C, pulse width limited by $T_{\rm JM}$	60	Α
P _D	T _C = 25°C	300	W
T _J		-55 +150	°C
T _{JM}		150	°C
T_{stg}		-55 + 150	°C
M _d	Mounting torque	1.13/10	Nm/lb.in.
Weight		6	g
	ead temperature for soldering 062 in.) from case for 10 s	300	°C



G = Gate, D = Drain, S = Source, TAB = Drain

Features

- International standard package JEDEC TO-247 AD
- Low $R_{DS (on)} HDMOS^{TM}$ process
- Rugged polysilicon gate cell structure
- High commutating dv/dt rating
- Fast switching times

Symbol	Test Conditions	Characteristic Values $(T_J = 25^{\circ}C, \text{ unless otherwise specified})$ min. typ. max.			
V _{DSS}	$V_{GS} = 0 \text{ V}, I_{D} = 250 \mu\text{A}$	70	0		V
$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_{D} = 250 \mu A$		2	4.5	V
I _{GSS}	$V_{GS} = \pm 20 \ V_{DC}, \ V_{DS} = 0$			±100	nA
I _{DSS}	$V_{DS} = 0.8 \cdot V_{DSS}$ $V_{DS} = 0 V$	T _J = 25°C T _. = 125°C		200	μA mA

Applications

- Switch-mode and resonant-mode power supplies
- Motor controls
- Uninterruptible Power Supplies (UPS)
- · DC choppers

Advantages

0.45

- Easy to mount with 1 screw (isolated mounting screw hole)
- · Space savings
- · High power density

IXYS reserves the right to change limits, test conditions, and dimensions.

Pulse test, $t \le 300 \mu s$, duty cycle $d \le 2 \%$

 $V_{GS} = 10 \text{ V}, I_{D} = 0.5 \cdot I_{D25}$

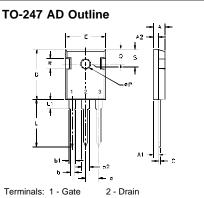
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 $R_{\scriptscriptstyle DS(on)}$



Symbol	Test Conditions Character ($T_J = 25^{\circ}\text{C}$, unless comin.	aracter otherwis	se spe	
g _{fs}	$V_{DS} = 10 \text{ V}; I_{D} = 0.5 I_{D25}, \text{ pulse test}$ 11	18		S
C _{iss} C _{oss} C _{rss}		4500 420 140		pF pF pF
$\mathbf{t}_{d(on)}$ \mathbf{t}_{r} $\mathbf{t}_{d(off)}$	$\begin{cases} V_{GS} = 10 \text{ V}, V_{DS} = 0.5 \bullet V_{DSS}, I_{D} = 0.5 I_{D25} \\ R_{G} = 2 \Omega, \text{ (External)} \end{cases}$	20 43 70 40	40 60 90 60	ns ns ns ns
Q _{g(on)} Q _{gs} Q _{gd}		150 29 60	170 40 85	nC nC nC
R _{thJC}		0.25	0.42	K/W K/W

Source-Drain Diode **Characteristic Values** (T_J = 25°C, unless otherwise specified) **Symbol Test Conditions** min. | typ. | max. $V_{GS} = 0 V$ Is 15 Α Repetitive; pulse width limited by $\mathsf{T}_{_{\mathsf{JM}}}$ Α 60 $I_{\rm SM}$ $\rm I_F = \rm I_S, \ V_{GS} = 0 \ V,$ Pulse test, t $\leq 300 \ \mu s,$ duty cycle d $\leq 2 \ \%$ V_{sd} V 1.5 $I_F = I_S$, -di/dt = 100 A/ μ s, $V_R = 100 V$ 600 t_{rr} ns



Terminals: 1 - Gate 3 - Source Tab - Drain

Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
Α	4.7	5.3	.185	.209
A,	2.2	2.54	.087	.102
A ₂	2.2	2.6	.059	.098
b	1.0	1.4	.040	.055
b₁	1.65	2.13	.065	.084
b_2	2.87	3.12	.113	.123
С	.4	.8	.016	.031
D	20.80	21.46	.819	.845
Е	15.75	16.26	.610	.640
е	5.20	5.72	0.205	0.225
L	19.81	20.32	.780	.800
L1		4.50		.177
ØP	3.55	3.65	.140	.144
Q	5.89	6.40	0.232	0.252
R	4.32	5.49	.170	.216
S	6.15	BSC	242	BSC

 $4,850,072 \quad 4,931,844 \quad 5,034,796 \quad 5,063,307 \quad 5,237,481 \quad 5,381,025$